

Applicants: Hirvonen et al.  
Application Serial No.: 10/538,193  
Filing Date: April 21, 2001  
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**IN THE CLAIMS:**

*Although no amendments to the claims have been made herein, a list of the claims as pending is set forth for the convenience of the examiner.*

1. (Previously Presented) An arrangement for testing a radio device comprising:  
a waveguide closed at both of its ends; and  
comprising a holder arranged to hold the radio device partly inside the waveguide in such a manner that at least a portion of the radiating part of the radio device remains outside the waveguide, the at least a portion of the radiating part of the radio device remaining outside the waveguide being entirely inside the holder, wherein the waveguide comprises:  
one or more ridges extending along a longitudinal axis of the waveguide, the end of at least one ridge facing the holder being bevelled; and  
one coupling inside the waveguide for transmission and reception of a radio-frequency signal by the use of a wideband mode of propagation.
2. (Previously Presented) An arrangement as claimed in claim 1, wherein the end of the waveguide on the side of the holder comprises one or more pegs made from a conductive substance and fastened to the inner surface of the waveguide.
3. (Previously Presented) An arrangement as claimed in claim 2, wherein the pegs are in contact with the waveguide only at their ends.
4. (Previously Presented) An arrangement as claimed in claim 1, wherein one end of at least one peg is fastened to the same wall of the waveguide as one ridge.
5. (Previously Presented) An arrangement as claimed in claim 1, wherein absorption material is fastened to the inner surface of the waveguide at the end on the side of the holder.
6. (Previously Presented) An arrangement as claimed in claim 5, wherein single-

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layered or multilayered absorption material is fastened to the inner surface of the waveguide as one or more strips.

7. (Previously Presented) An arrangement as claimed in claim 1, wherein the cross-sectional shape of the holder conforms to the external dimensions of the radio device to be tested and that the length of the holder is selected in a manner preventing radio-frequency radiation from propagating out from the end of the holder opposite to the waveguide.

8. (Previously Presented) An arrangement as claimed in claim 1, wherein the end of the holder opposite relative to the waveguide is closed.

9. (Previously Presented) An arrangement as claimed in claim 1, wherein the holder is configured to hold the radio device inside the waveguide in such a manner that the antenna part of the radio device is inside the waveguide.

10. (Previously Presented) An arrangement as claimed in claim 1, wherein the cross section of the waveguide is selected according to the desired frequency range to be tested.

11. (Previously Presented) An arrangement as claimed in claim 1, wherein the arrangement comprises an electric or magnetic coupling of the radio-frequency radiation propagating in the waveguide to a measuring device.

12. (Previously Presented) An arrangement as claimed in claim 1, wherein the coupling is implemented by means of a probe, loop or iris.

13. (Previously Presented) An arrangement as claimed in claim 1, wherein the holder comprises small openings at the keys of the radio device to be tested.

14. (Previously Presented) An arrangement as claimed in claim 1, wherein to the radio device to be tested is coupled a control signal that is transferred to the device by means of a

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cable, and that the holder comprises a lead-in for the cable.

15. (Previously Presented) An arrangement as claimed in claim 1, wherein the holder is detachably attachable to the waveguide.

16. (Previously Presented) An arrangement as claimed in claim 1, wherein the waveguide comprises an opening and fastening means for the holder.

17. (Previously Presented) A method of testing a radio device, wherein the radio device to be tested is mounted by means of a holder such that the radio device is held partly inside a waveguide closed at both of its ends, the method comprising:

generating a wideband mode of propagation in the waveguide by means of at least one ridge extending along a longitudinal axis of the waveguide, the end of at least one ridge facing the holder being bevelled; and

transmitting and receiving radio-frequency signals by using the wideband mode of propagation between the radio device and a coupling installed in the waveguide, at least a portion of the radiating part of the radio device remaining outside the waveguide, the at least a portion of the radiating part of the radio device remaining outside the waveguide being entirely inside the holder.

18. (Previously Presented) A method as claimed in claim 17, wherein the coupling adapts the radio-frequency signal propagating in the waveguide to a coaxial cable connected to a radio frequency measuring device.

19. (Previously Presented) A method as claimed in claim 17, further comprising transmitting and receiving radio-frequency signals between the radio device and at least one loop disposed in the waveguide, the loop transferring signal energy to a measuring device operationally coupled to the loop.

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20. (Previously Presented) A method as claimed in claim 17, further comprising transmitting and receiving radio-frequency signals between the radio device and at least one probe disposed in the waveguide, the probe transferring signal energy to a measuring device operationally coupled to the probe.

21. (Previously Presented) A method as claimed in claim 17, further comprising performing the calibration of the test equipment by means of a reference unit having a grounded antenna circuit.

22. (Previously Presented) A method as claimed in claim 17, wherein one or more pegs made from a conductive material are fastened to the inner surface of the waveguide at the end of the waveguide on the side of the holder.

23. (Previously Presented) A method as claimed in claim 17, wherein the frequency area to be tested simultaneously comprises at least two frequency bands intended for mobile telephones.